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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/676,265	10/02/2003	Edward J. Kroliczek	2507-8637.1US (22235-US-0)	3460
60794	7590	09/03/2010	EXAMINER	
TRASKBRITT, P.C./ ALLIANT TECH SYSTEMS P.O. BOX 2550 SALT LAKE CITY, UT 84110			CIRIC, LJILJANA V	
			ART UNIT	PAPER NUMBER
			3744	
			NOTIFICATION DATE	DELIVERY MODE
			09/03/2010	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

USPTOMail@traskbritt.com

Office Action Summary	Application No. 10/676,265	Applicant(s) KROLICZEK ET AL.	
	Examiner Ljiljana (Lil) V. Ciric	Art Unit 3744	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 February 2010 and 10 June 2010.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-3, 6-12, 16, 18-47, 49-54, 57, 59, 60, 63-65 and 79-85 is/are pending in the application.
- 4a) Of the above claim(s) 19-23, 29-47, 49-51, 63 and 79-85 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-3, 6-12, 16, 18, 24-28, 52-54, 57, 59, 60, 64 and 65 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 24 February 2010 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date <u>07/20/2010</u> . | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3744

DETAILED ACTION

Election/Restrictions

1. Applicant's election without traverse of the invention of Group I (readable on claims 1 through 3, 6 through 12, 16, 18 through 47, 49 through 54, 57, 59, 60, and 63 through 65) in the replies filed on June 10, 2010 is hereby acknowledged.

2. Claims 79 through 85 are thus hereby withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to the non-elected Group II, whereas claims 19 through 23, 29 through 47, 49 through 51, and 63 also remain withdrawn from consideration pursuant to the same, there being no allowable generic or linking claim. Election was made **without** traverse in the replies filed on August 19, 2008 and on December 31, 2008, as well as more recently on June 10, 2010.

Drawings

3. The replacement drawings were received on received on February 24, 2010. These drawings are hereby approved.

Specification

4. Receipt and entry of the amended abstract filed on February 24, 2010 is hereby acknowledged.

Claim Objections

5. Claim 57 is objected to under 37 CFR 1.75(c), as being of improper dependent form for failing to further limit the subject matter of a previous claim. Applicant is required to cancel the claim(s), or amend the claim(s) to place the claim(s) in proper dependent form, or rewrite the claim(s) in independent form. As written, claim 57 depends from cancelled claim 56. For purposes of this Office action, the examiner has made the assumption that claim 57 is intended to depend from claim 52.

Claim Rejections - 35 USC § 102

6. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

Art Unit: 3744

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

7. Claims 1, 6 through 12, 16, 26, and 28 are rejected under 35 U.S.C. 102(b) as being anticipated by Shaubach et al. (U.S. Patent No. 4,854,379).

Shaubach et al. (especially Figure 4) discloses an evaporator or heat pipe 28 essentially as claimed, including, for example: a heated wall heated by heat sources 36; a liquid barrier wall corresponding to artery 32; a primary wick 40 extending from a portion of the heated wall to a portion of the liquid barrier wall as shown in Figure 4; a vapor removal channel 38; a liquid flow channel 34; and, a liquid inlet or opening 30.

The reference thus reads on the claims.

Claim Rejections - 35 USC § 103

8. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

9. Claims 2, 3, 18, 24, 25, 52 through 54, 57, 59, 60, and 64 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaubach et al. (U.S. Patent No. 4,854,379).

As noted in greater detail above, Shaubach et al. discloses an evaporator or heat pipe 28 essentially as claimed, including a vapor removal channel 38 and a liquid flow channel 34, for example.

With regard to claims 2, 3, and 18, Shaubach et al. fails to disclose a plurality of vapor removal channels and liquid flow channels as recited in the claims. However, absent a showing a criticality and/or unexpected results, duplication of parts (i.e., channels) does not impart patentability.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the evaporator or heat pipe 28 of Shaubach et al. by increasing the number of vapor removal channels and of

Art Unit: 3744

liquid flow channels in order to increase the heat transfer area and volume (and thus the heat transfer capacity) of the evaporator or heat pipe 28.

With regard to claims 24, 25, 52 through 54, 57, 59, 60, and 64, Shaubach et al. fails to disclose the primary wick, the heated wall, and the liquid barrier wall as having the particular spatial interrelationships as recited in the claims. However, again, absent a showing of criticality and/or unexpected results, neither reversal nor rearrangement of parts imparts patentability.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the evaporator or heat pipe 28 of Shaubach et al. by rearranging the various elements of the evaporator or heat pipe 28 by disposing these coaxially relative to one another in order to save space, for example. It would have been similarly obvious to one skilled in the art at the time of invention to modify the evaporator or heat pipe 28 of Shaubach et al. by reversing/inverting the relative arrangement of the various elements of the evaporator or heat pipe 28 in order to save space, for example.

10. Claims 27 and 65 are rejected under 35 U.S.C. 103(a) as being unpatentable over Shaubach et al. (U.S. Patent No. 4,854,379) in view of Ghoshal (US 2002/0062648 A1).

As noted in greater detail above, Shaubach et al. discloses an evaporator or heat pipe 28 essentially as claimed, including a liquid flow channel 34 and a liquid barrier wall corresponding to liquid artery 32 therein.

However, Shaubach et al. fails to disclose fins disposed on an outer surface of the liquid barrier wall. Nevertheless, it is very well known in the art and taught by Ghoshal to have fins or heat dissipators disposed on the outside of a liquid barrier wall of an evaporator or heat pipe in order to enhance cooling.

Thus, it would have been obvious to one skilled in the art at the time of invention to modify the evaporator or heat pipe 28 of Shaumbach et al. by adding external fins or heat dissipators as taught by Ghoshal in order to enhance cooling by increasing the heat transfer surface area and corresponding heat transfer rate through the wall to which the fins or heat dissipators are attached.

Art Unit: 3744

Conclusion

11. The additional prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

12. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ljiljana (Lil) V. Ciric whose telephone number is 571-272-4909. The examiner works a flexible work schedule but can normally be reached on most days during the work week between the hours of 10:30 a.m. and 6:30 p.m.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Cheryl J. Tyler can be reached on 571-272-4834. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system.

Status information for published applications may be obtained from either Private PAIR or Public PAIR.

Status information for unpublished applications is available through Private PAIR only.

For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Ljiljana (Lil) V. Ciric/

Primary Examiner, Art Unit 3744